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(54) Title: INCREASING GAMETE PRODUCTION WITH A GENE SWITCH

(57) Abstract: A method of enhancing the production of gametes in a transgenic non-human animal is carried out by: (a) providing a transgenic non-human animal comprising cells that contain: (i) a response element; (ii) a nucleic acid encoding FSH $\beta$  operatively associated with said response element; (iii) an FSH $\beta$  promoter; (iv) an FSH $\beta$  locus control region operatively associated with said FSH $\beta$  promoter; and (v) a nucleic acid encoding a ligand-controllable receptor operatively associated with said FSH $\beta$  promoter, wherein said receptor binds to said response element in the presence of said ligand when expressed in a host cell; and (b) adminis-  
 tering said ligand to said animal in an amount effective to (i) stimulate the production of FSH $\beta$  in said animal above that found in a corresponding untransformed type animal; and (ii) stimulate the production of gametes in said animal to a level greater than that found in the corresponding untransformed animal.



WO 2004/061077 A2